



Shell Services International

# SC4 Architecture for Data Integration

- ISO TC184/SC4/WG10 N148

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*Asset Information Management*

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## Main Elements

- Integration Model
  - Extensibility required
  - Integration methodology required
- Change Management
- Constraint Management
- Application Data Model
- Projection Capability
  - Traditional flat model from semantics and constraints built in
- Mapping Capability



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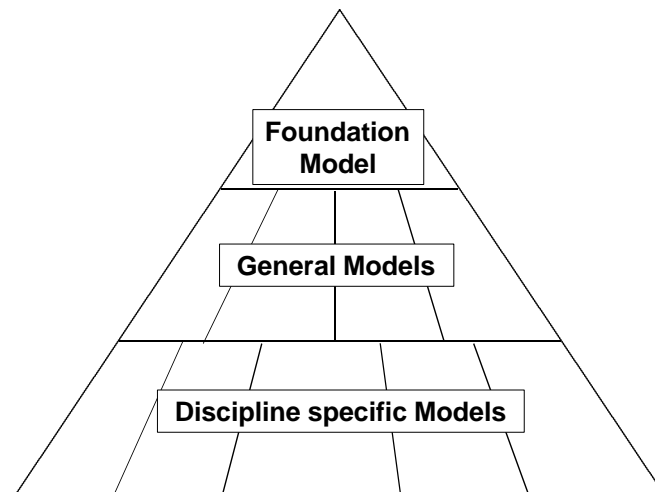
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# Integration Model

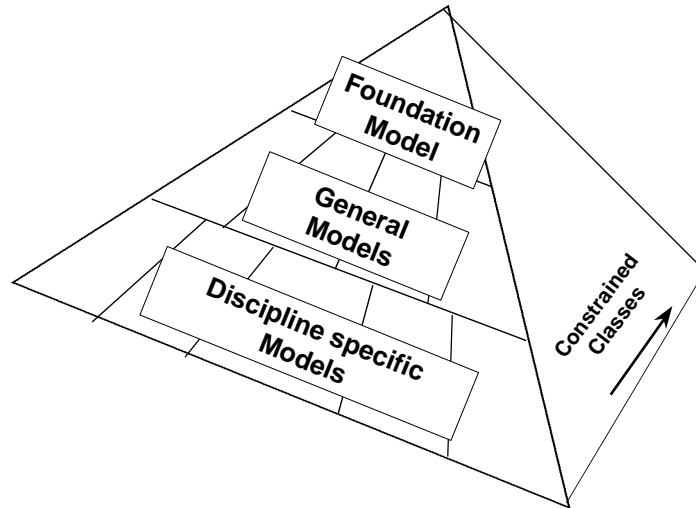
- EXPRESS not suitable
  - Can't show relationships between classes (entity types)
- Need ability to extend model with precise semantics - integration methodology
- Need ability to change model, and provide data migration route (internal mapping)
- Need ability to manage constraints
- Needs ability to deal with multiple modelling languages



# Architecture



# Architecture

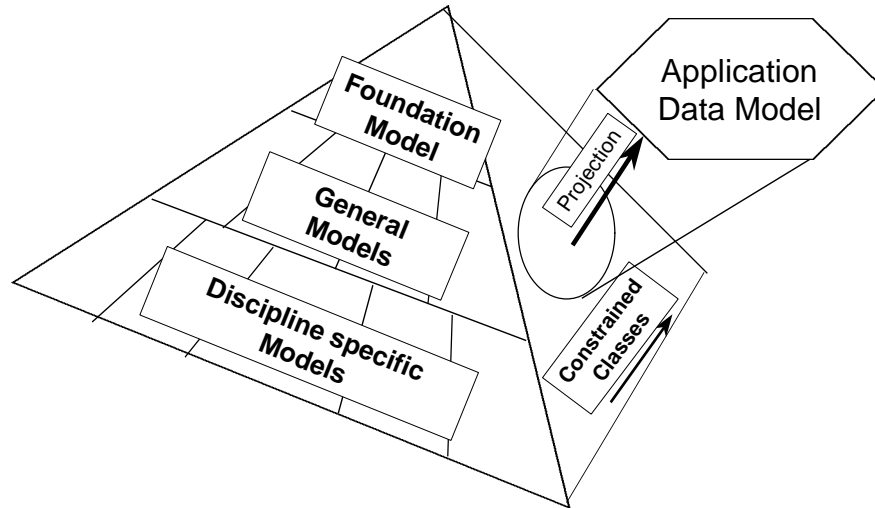


## Application Data Models

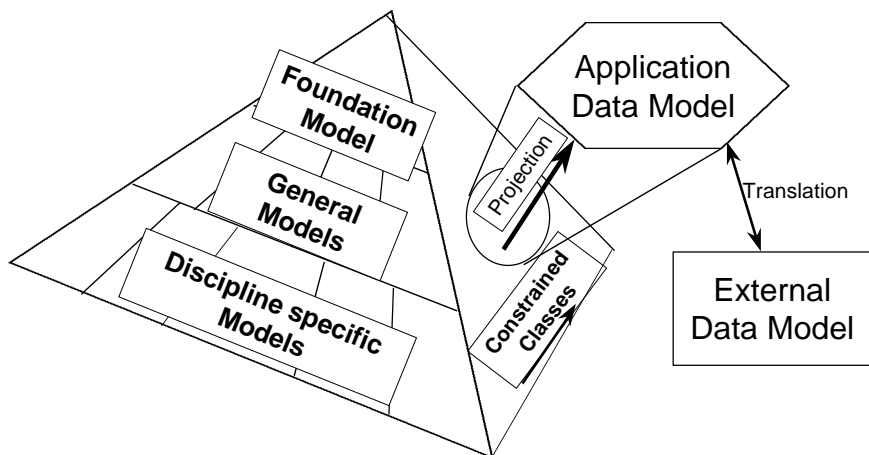
- Subset of Integration Model
- May have additional constraints
- May have projection to “flat” model(s)
- May be mapped to external model
  - usually simple mapping
  - e.g. STEP APs, PLib, MANDATE, UML models



# Architecture



# Architecture



## Implementation Methods

- Data Access/Sharing API
- Data Exchange
- Mapping
  - Model Projection (change in structure)
  - Model Translation (change in terminology)



## Progress

- Business Requirements documented
- Key Technical Requirements identified
- Main architectural elements identified
- Model of Fundamental Concepts proposed
- Papers describing architecture available
- Mapping language under development



## Next Steps

- Develop Integration Model as a series of integrated layers
  - Based on existing sources e.g. Integrated Resources, EPISTLE
- Identify Document Architecture
- Identify electronic publication mechanism for models, projections and mappings

